

韓国済州島の蘚類植物相：追加記録と更新された総目録

著者	He Si, Song Jong-Suk
著者別表示	何 思, 宋 鍾碩
journal or publication title	The journal of phytogeography and taxonomy
volume	58
number	2
page range	97-108
year	2011-03-30
URL	http://doi.org/10.24517/00053441

Si He¹ and Jong-Suk Song^{2*} : The mosses of Jeju Island, Korea: New records and an updated checklist

¹Missouri Botanical Garden, P. O. Box 299, St. Louis, MO 63166-0299, USA: Si.He@mobot.org; ^{2*}Department of Biological Science, College of Natural Sciences, Andong National University, 388 Songcheon-dong, Andong, Gyeongbuk 760-749, Republic of Korea: jssong@andong.ac.kr (corresponding author)

Abstract

The updated checklist of the mosses from Jeju Island, Korea contains 225 specific and infraspecific taxa in 109 genera and 42 families. It includes all moss names recorded for the Island by literature. Fifty three new records of species are added to the moss flora of Jeju Island, including 12 records new to Korea.

Key words : bryophyte flora, checklist, Jeju Island, Korea.

Introduction

Jeju (also known as Cheju or Quelpart) Island is essentially a volcanic, basalt landmass with an area of 1824 km². It is located at about 90 km from the southernmost edge of the Korean Peninsula. The Halla Mountain rising 1950 m above sea level at its highest peak is situated in the center of the island. The vegetation of the island is rather distinct along an elevation line. Three vegetation belts can be recognized (Ueki 1933; Song and Yamada 2006): 1) the warm-temperate zone below 600 m with evergreen broad-leaved forests dominated by species of *Castanopsis cuspidata* var. *sieboldii* (Makino) Nakai, *Persea thunbergii* (Siebold et Zucc.) Koester. and *Quercus acuta* Thunb.; 2) the cool temperate zone from 600 m to ca. 1600 m with deciduous broad-leaved forests dominated by *Carpinus tschonoskii* Maxim., *C. laxiflora* (Siebold. et Zucc.) Blume, *Quercus serrata* Thunb. and *Q. mongolica* Fisch. ex Ledeb.; 3) the subarctic zone above 1600 m with evergreen coniferous forests dominated by *Abies koreana* E. H. Wilson. The diverse vegetation supports a variety of moss species in this island.

The moss flora of Jeju Island was first presented by Hong and Ando (1962, 1963), which gave a nice historic account on the study of the mosses of the Island. The number of mosses reported from the Island before 1962 was 113

species and it was brought up to 172 species (Hong and Ando 1963). Since then no significant study of the mosses has been carried out for the island. The nomenclature of the species is very much outdated after nearly 50 years of its publication. Nearly 30% of the species have been synonymized or transferred to different genera. In 2000, the authors made a collecting trip to the Island in the Hallasan National Park, Andeok Valley, and the area surrounding the Manjang Cave. In this paper, we report 16 genera and 53 species new to the Island, including 12 species new to both the Island and Korean peninsula. Significantly, *Trachycladiella aurea* (Mitt.) M. Menzel is a species and genus reported first time new to Korea. We checked the TROPICOS Database of Missouri Botanical Garden (2010) for all of the new records from the Island or Korea. The updated moss flora of Jeju Island consists of 217 species and 8 varieties in 109 genera and 42 families. The following is an updated checklist of the mosses from Jeju Island. Species preceded by an asterisk represent new records to the Island and the double asterisks new records to both Jeju Island and Korea. The references after species names are those original publications with specimen citations. The collection numbers in parentheses are those made in our field trip. All voucher specimens are deposited at the

Missouri Botanical Garden (MO) and Andong National University (ANU).

New records and an updated checklist

* and ** indicate new records to Jeju Island and Korea.

Amphidium Schimp. (Dicranaceae)

— **clastophyllum** Card. (Cardot 1908)

Anoetangium Schwägr. (Pottiaceae)

— **thomsonii** Mitt. (as *A. crispulum*, Hong and Ando 1962; as *A. laetevirens*, *A. sublaetevirens*, Cardot 1907)

Anomodon Hook. et Taylor (Thuidiaceae)

— **girdalii** Müll. Hal. (Kashimura 1941, Hong and Ando 1963) (nos. 34561, 34721, 34655a)

— **longinervis** Broth. (as *Haplohymenium longinerve*, *H. longinerve* f. *piliferum*, Hong and Ando 1963; as *H. biforme*, Cardot 1911) (no. 34535)

— **rugelii** (Müll. Hal.) Keissl. (Hong and Ando 1963) (as *A. apiculatus*, Kashimura 1941; as *A. uematsui*, Hong and Ando 1963) (no. 34623)

— **sieboldii** (Dozy et Molk.) Granzow (as *Haplohymenium sieboldii*, Noguchi 1957)

— **tristis** (Ces.) Sull. et Lesq. (as *Haplohymentum triste*, Hong and Ando 1963)

Atrichum P. Beauv. (Polytrichaceae)

— **crispulum** Schimp. ex Besch. (as *A. spinulosum*, Hong and Ando 1963; as *Catharinea spinulosa*, Cardot 1909)

— **crispum (James) Sull. (no. 34656)

— **rhystophyllum** (Müll. Hal.) Paris (as *Catharinea chlorochaeta*, Cardot 1909) (no. 34542)

— **undulatum** (Hedw.) P. Beauv. (as *A. undulatum* var. *minus*, Hong and Ando 1963)

Aulacopilum Wilson (Erpodiaceae)

— **japonicum** Broth. ex Cardot (Cardot 1909, Brotherus 1921, Kashimura 1939)

***Barbula** Hedw. (Pottiaceae)

— **convoluta Hedw. (no. 34745)

Bartramia Hedw. (Bartramiaceae)

— **pomiformis** Hedw. (Hong and Ando 1962) (as *B. crispata*, Horikawa 1935, Kashimura 1939)

***Blindia** Bruch et Schimp. (Seligeriaceae)

*— **japonica** Broth. (no. 34591)

Boulaya Cardot (Thuidiaceae)

— **mittenii** (Broth.) Cardot (Okamura 1915, Kashimura 1941, Horikawa 1955, Hong and Ando 1963) (nos. 34573, 34577, 34640, 34682, 34687)

Brachythecium Schimp. (Brachytheciaceae)

— **brevirameum** Cardot = *Palamocladium leskeoides*, fide Hofmann 1997

— **brotheri** Paris (Hong and Ando 1963) (nos. 34670, 34685, 34690, 34742, 34746)

— **buchananii** (Hook.) A. Jaeger (Hong and Ando 1963) (as *B. buchananii* var. *japonicum*, Cardot 1911) (no. 34518)

— **buchananii** var. **sawadae** (Cardot) Takaki (as *B. sawadae*, Cardot 1911)

— **coreanum** Cardot (Hong and Ando 1963)

— **helminthocladum** Broth. et Paris (as *B. laxitextum*, Cardot 1911) (nos. 34576, 34614)

— **plumosum** (Hedw.) Schimp. (as *B. flagellare*, Hong and Ando 1963; *B. plumosum* var. *mimmayae*, *B. plumosum* var. *stenocarpum*, Cardot 1911) (nos. 34513, 34520, 34524)

— **populeum** (Hedw.) Schimp. (Okamura 1915, Hong and Ando 1963) (as *B. populeum* var. *quelpaertense*, Hong and Ando 1963; *B. quelpaertense*, Cardot 1911)

— **pulchellum** Broth. et Paris (as *B. rhynchoستيelloides*, Cardot 1911)

— **rivulare** Schimp. (Hong and Ando 1963)

— **sakuraii Broth. (no. 34543a)

— **salebrosum** (Hoffm. ex F. Weber et D. Mohr) Schimp. (Hong and Ando 1963) (nos. 34653, 34710)

— **uematsui Broth. (no. 34530)

Breidleria Loeske (Hypnaceae)

— **erectiuscula** (Sull. et Lesq.) Hedenäs (as *Hypnum homalliaceum*, Hong and Ando 1963)

Brotherella Loeske ex M. Fleisch. (Sematophyllaceae)

*— **fauriei** (Besch. ex Cardot) Broth. (nos. 34550, 34618, 34645, 34647)

— **yokohamae** (Broth.) Broth. (as *Clastobryella tsunodae*, Hong and Ando 1963) (no. 34696a)

Bryhnia Kaurin (Brachytheciaceae)

*— **hultenii** E.B. Bartram (nos. 34633, 34657a)

- *novae-angliae* (Sull. et Lesq.) Grout (Hong and Ando 1963)
- *tenerima* Broth. et Yasuda (Hong and Ando 1963)
- *tokubuchii* (Broth.) Paris (as *B. deltophylla*, Hong and Ando 1963; as *Eurhynchium deltophyllum*, Cardot 1912)
- Bryoxiphium** Mitt. (Bryoxiphiaceae)
- *norvegicum* subsp. *japonicum* (Berggr.) Á. Löve and D. Löve (Hong and Ando 1962) (as *B. savatieri*, Kashimura 1939) (nos. 34523, 34537, 34580, 34588, 34599, 34660, 34665)
- Bryum** Hedw. (Bryaceae)
- *argenteum* Hedw. (Kashimura 1939)
- *giganteum* (Schwägr.) Arn. = *Rhodobryum giganteum*, fide Noguchi and Iwatsuki 1988
- *pallescens* Schleich. ex Schwägr. (as *B. pallescens* var. *quelpaertense*, Cardot 1909)
- *paradoxum* Schwägr. (as *B. pseudoalpinum*, Hong and Ando 1962)
- *roseum* (Hedw.) Crome = *Rhodobryum roseum*, fide Noguchi and Iwatsuki 1988
- Callicladium** H. A. Crum (Hypnaceae)
- *haldanianum* (Grev.) H. A. Crum (as *Heterophyllum haldanianum*, Hong and Ando 1963) (no. 34695)
- Calliergonella** Loeske (Amblystegiaceae)
- *schreberi* (Willd. ex Brid.) Grout = *Pleurozium schreberi*, fide Wijk et al. 1959
- *linbergii* (Mitt.) Hedenäs (as *Hypnum linbergii*, Hong and Ando 1963) (no. 34607)
- * **Campyliadelphus** (Kindb.) R. S. Chopra (Amblystegiaceae)
- **— *polygamus* (Schimp.) Kanda (no. 34527)
- * **Campylium** (Sull.) Mitt. (Amblystegiaceae)
- **— *radicale* (P. Beauv.) Grout (no. 34556)
- Catharinea Ehrh ex F. Weber et D. Mohr
- *chlorochaeta* Cardot = *Atrichum rhystophyllum*, fide Lou and Koponen 1986
- *spinulosa* Cardot = *Atrichum crispulum*, fide Nyholm 1971
- Cirriphyllum** Grout (Brachytheciaceae)
- *piliferum* (Hedw.) Grout (Hong and Ando 1963)
- Claopodium** (Lesq. et James) Renaud et Cardot (Thuidiaceae)
- *aciculum* (Broth.) Broth. (as *C. assurgens* var. *brevifolium*, Cardot 1911; as *C. viridulum*, Cardot 1911)
- *assurgens* (Sull. et Lesq.) Cardot (as *C. asperrimum*, Cardot 1911)
- *prionophyllum* (Müll. Hal.) Broth. (as *C. nervosum* var. *septentrionale*, Hong and Ando 1963; as *C. prionophyllum* var. *septentrionale*, Cardot 1911)
- Clastobryella M. Flesich.
- *tsunodae* (Broth. et Yasuda) Broth. = *Brotharella yokohamae*, fide Noguchi and Inoue 1981
- Climacium** F. Weber et D. Mohr (Climaciaceae)
- *japonicum* Lindb. (Okamura 1915, Kashimura 1941, Hong and Ando 1962) (nos. 34560a, 34568, 34720)
- Ctenidium** (Schimp.) Mitt. (Hypnaceae)
- *capillifolium* (Mitt.) Broth. (Hong and Ando 1963) (no. 34699)
- *hastile* (Mitt.) Lindb. (Okamura 1915)
- *ikegamii* Ando (Hong and Ando 1963), nom. nud. A species has never been published.
- *— *molluscum* (Hedw.) Mitt. (no. 34628a)
- Dichodontium** Schimp. (Dicranaceae)
- *pellucidum* (Hedw.) Schimp. (as *D. verrucosum*, Cardot 1907)
- Dicranella** (Müll. Hal.) Schimp. (Dicranaceae)
- *heteromalla* (Hedw.) Schimp. (Hong and Ando 1962) (as *D. quelpaertensis*, Cardot 1907) (no. 34615)
- *— *varia* (Hedw.) Schimp. (no. 34646)
- Dicranum** Hedw. (Dicranaceae)
- *— *flagellare* Hedw. (nos. 34630, 34674, 34573a)
- *fulvum* Hook. (*D. subleiodontium*, Cardot 1907, Hong and Ando 1962) (no. 34692)
- *— *fuscescens* Turner (no. 34618a)
- *japonicum* Mitt. (Hong and Ando 1962) (nos. 34572, 34598)
- *majus* Turner (Kashimura 1939, Hong and Ando 1962)
- *mayrii* Broth. (Hong and Ando 1962) (nos. 34643, 34573b)
- *nipponense* Besch. (Kashimura 1939, Hong and Ando 1962) (nos. 34609, 34627, 34667, 34700)
- *scoparium* Hedw. (Kashimura 1939, Hong and Ando 1962)
- *striatulum* (Mitt.) Nog. (as *D. cylindricum*, Hong and Ando 1962; as *D. fragili-*

- forme*, Cardot 1907)
- **viride** (Sull. et Lesq.) Lindb. (Hong and Ando 1962) (as *D. hakkodense*, Cardot 1907) (nos. 34692a, 34712)
- ***Didymodon** Hedw. (Pottiaceae)
- *— **erosodenticulatus** (Müll. Hal.) K. Saito (no. 34569)
- Diphyscium** D. Mohr (Diphysciaceae)
- **fulvifolium** Mitt. (Kashimura 1941)
- Ditrichum** Hampe (Ditrichaceae)
- **divaricatum** Mitt. (as *F. divaricatum* var. *exaltatum*, Cardot 1908).
- Dolichomitra** Broth. (Lembophyllaceae)
- **cymbifolia** (Lindb.) Broth. (Hong and Ando 1962)
- Dolichomitriopsis** S. Okamura (Lembophyllaceae)
- **diversiformis** (Mitt.) Nog. (Hong and Ando 1962) (as *Isothecium diversiforme*, Okamura 1915, Kashimura 1941) (nos. 34583, 34596, 34619, 34635a, 34651, 34680, 34706, 34724)
- Entodon** Müll. Hal. (Entodontaceae)
- **brevisetus** (Hook. et Wilson) Lindb. (as *Platygyrium perichaetiale*, Cardot 1911)
- **diversinervis** Cardot (Cardot 1911) (no. 34718)
- *— **giraldii** Müll. Hal. (nos. 34512, 34539, 34735, 34740)
- **flavescens** (Hook.) A. Jaeger (as *E. ramulosus*, Kashimura 1941; as *E. rubicundus*, Hong and Ando 1963) (nos. 34605, 34652, 34673)
- **scabridens** Lindb. (Hong and Ando 1963) (as *E. pilifer*, Noguchi 1951) (no. 34686)
- *— **sullivantii** (Müll. Hal.) Lindb. (no. 34606a)
- **viridulus** Cardot (Cardot 1911)
- ***Eurhynchiadelphus** Ignatov, Huttunen et T. J. Kop. (Brachytheciaceae)
- *— **eustegia** (Besch.) Ignatov et Huttunen (nos. 34538, 34555, 34702)
- Eurhynchium** Bruch et Schimp. (Brachytheciaceae)
- deltophyllum Cardot = *Bryhnia tokubuchii*, fide Noguchi et al. 1991
- riparioides (Hedw.) P. W. Richards = *Rhynchostegium riparioides*, fide Noguchi et al. 1991
- **savatieri** Schimp. ex Besch. (as *E. fauriei*, Hong and Ando 1963) (nos. 34726, 34729)
- Fauriella** Besch. (Theliaceae)
- **tenuis** (Mitt.) Cardot (Kashimura 1941, Hong and Ando 1963) (no. 34692b)
- Fissidens** Hedw. (Fissidentaceae)
- *— **adanthoides** Hedw. (no. 34684)
- **dubius** P. Beauv. (as *F. cristatus*, Horikawa 1935, Kashimura 1939, Hong and Ando 1962) (nos. 34546, 34595)
- **geppi** M. Fleisch. (as *F. pseudolateralis*, Cardot 1908)
- **nobilis** Griff. (as *F. japonicus*, Okamura 1915, Kashimura 1939; Hong and Ando 1962) (nos. 34506, 34541, 34700a)
- *— **taxifolius** Hedw. (nos. 34637, 34704, 34739)
- **teysmannianus** Dozy et Molk. (as *F. fauriei*, Cardot 1907) (nos. 34574, 34694, 34732)
- ***Forsstroemia** Lindb. (Leucodontaceae)
- *— **japonica** (Besch.) Paris (nos. 34557, 34590, 34592, 34594)
- Funaria** Hedw. (Funariaceae)
- **hygrometrica** Hedw. (Kashimura 1939) Georgia Ehrh ex Müll. Hal.
- *pellucida* (Hedw.) Rabenh. = *Tetraphis pellucida*, fide Wijk et al. 1962
- Gollania** Broth. (Hypnaceae)
- **ruginosa** (Mitt.) Broth. (Hong and Ando 1963) (nos. 34563, 34597a)
- Grimmia** Hedw. (Grimmiaceae)
- apocarpa Hedw. = *Schistidium apocarpum*, fide Staples et al. 2004
- apocarpa var. *microtheca* Cardot = *Schistidium gracile*, fide Deguchi 1978[1979]
- **pilifera** P. Beauv. (Hong and Ando 1962) (as *G. atroviridis*, Cardot 1908)
- **— **trichophylla** Grev. (nos. 34511, 34662, 34734, 34750)
- ***Haplocladium** (Müll. Hal.) Müll. Hal. (Thuidiaceae)
- *— **angustifolium** (Hampe et Müll. Hal.) Broth. (nos. 34738, 34743)
- Haplohyemium Schwägr.
- biforme Broth. = *Anomodon longinervis*, fide Granzow 1997
- longinerve (Broth.) Broth. = *Anomodon longinervis*, fide Granzow 1997
- longinerve fo. *piliferum* (Broth. and M. Ya-

- suda) Nog. = *Anomodon longinervis*, fide Granzow 1997
- *sieboldii* (Dozy et Molk.) Dozy and Molk. = *Anomodon sieboldii*, fide Granzow 1997
- *triste* (Ces.) Kindb. = *Anomodon tristis*, fide Granzow 1997
- Hedwigia** P. Beauv. (Hedwigiaceae)
- *ciliata* (Hedw.) P. Beauv. (Hong and Ando 1962) (no. 34728)
- Herpetineuron** (Müll. Hal.) Cardot (Thuidiaceae)
- *toccoae* (Sull. et Lesq.) Cardot (Hong and Ando 1963) (nos. 34512a, 34522, 34733, 34747)
- Heterophyllum (Schimp.) Kindb.
- *haldanianum* (Grev.) M. Fleisch. = *Callicladium haldanianum*, fide Crum 1971
- Holomitrium** Brid. (Dicranaceae)
- *densifolium* (Wilson) Wijk et Margad. (as *H. japonicum*, Cardot 1907, Kashimura 1939)
- Homalia** Brid. (Neckeraceae)
- *trichomanoides* (Hedw.) Schimp. (Hong and Ando 1962) (nos. 34526, 34543, 34582, 34603, 34628, 34744)
- Homaliiodendron** M. Fleisch. (Neckeraceae)
- *scalpellifolium* (Mitt.) M. Fleisch. (Hong and Ando 1962) (no. 34516)
- Homalothecium** Schimp. (Brachytheciaceae)
- *laevisetum* Sande Lac. (as *H. tokiadense*, Kashimura 1941) (nos. 34597, 34708)
- Hondaella** Dixon et Sakurai (Hypnaceae)
- *caperata* (Mitt.) B. C. Tan et Z. Iwats. (as *H. brachytheciella*, Hong and Ando 1963)
- Hylocomium** Bruch et Schimp. (Hylocomiaceae)
- *brevirostre* (Brid.) Schimp. = *Loeskeobryum brevirostre*, Brotherus 1925
- *brevirostre* var. *cavifolium* (Sande Lac.) Nog. = *Loeskeobryum cavifolium*, fide Brotherus 1925
- *himalayanum* (Mitt.) Jaeg. = *Hylocomiastrium himalayanum*, fide Brotherus 1925
- *proliferum* (Brid.) Lindb. = *H. splendens*, fide Noguchi et al. 1994
- *pyrenaicum* (Spruce) Lindb. = *Hylocomiastrium pyrenaicum*, fide Brotherus 1925
- *splendens* (Hedw.) Schimp. (Hong and Ando 1963) (as *H. proliferum*, Kashimura 1941)
- Hylocomiastrium** M. Fleisch. ex Broth. (Hylocomiaceae)
- *himalayanum* (Mitt.) Broth. (Horikawa 1935) (as *Hylocomium himalayanum*, Okamura 1915, Hong and Ando 1963)
- *pyrenaicum* (Spruce) M. Fleisch. (Kashimura 1941) (as *Hylocomium pyrenaicum*, Hong and Ando 1963)
- Hylocomiopsis** Cardot (Thuidiaceae)
- *ovicarpa* (Besch.) Cardot (Cardot 1913b, Kashimura 1941, Hong and Ando 1963)
- Hyophila Brid.
- *corensis* Cardot = *Weisiopsis corensis*, fide Brotherus 1921
- *weisiaeformis* Cardot = *Weisiopsis anomala*, fide Wijk et al. 1962
- Hypnum** Hedw. (Hypnaceae)
- *— *fauriei* Cardot (nos. 34528, 34553)
- *hamulosum* Schimp. (Hong and Ando 1963)
- *homaliaceum* (Besch.) Ando = *Breidleria erectiuscula*, fide Hedenäs 1990[1992]
- *lindbergii* Mitt. = *Calliergonella lindbergii*, fide Hedenäs 1990[1992]
- *— *oldhamii* (Mitt.) A. Jaeger (nos. 34587, 34589, 34668)
- *— *plicatulum* (Lindb.) A. Jaeger (nos. 34661, 34675, 34691, 34715)
- *plumaeforme* Wilson (Hong and Ando 1963) (as *Stereodon ctenium*, Okamura 1915)
- *tristoviride* (Broth.) Paris (Hong and Ando 1963)
- Hypopterygium** Brid. (Hypopterygiaceae)
- *flavolimbatum* Müll. Hal. (as *H. japonicum*, Okamura 1915)
- Isothecium Brid.
- *diversiforme* (Mitt.) Besch. = *Dolichomitriopsis diversiformis*, fide Noguchi 1948
- ***Leucobryum** Hampe (Dicranaceae)
- *— *juniperoideum* (Brid.) Müll. Hal. (nos. 34584, 34586)
- Leucodon** Schwägr. (Leucodontaceae)
- *— *corensis* Cardot (nos. 34626, 34669)
- *luteus* Besch. (as *L. dozyoides*, Horikawa 1935; as *Macrosporiella dozyoides*, Hong and Ando 1962)
- Loeskeobryum** M. Fleisch. ex Broth. (Hylocomiaceae)

- **brevirostre** (Brid.) M. Fleisch. (Horikawa 1935) (as *Hylocomium brevirostre*, Hong and Ando 1963)
- **cavifolium** (Sande Lac.) M. Fleisch. ex Broth. (as *Hylocomium brevirostre* var. *cavifolium*, Hong and Ando 1963) (no. 34552)
- Lescuraea** Bruch and Schimp.
 - *longinervis* (Card.) Nog. [No such combination has been published by Noguchi in literature. It was invalidly presented by Hong and Ando (1963) because no basionym was indicated. The basionym was probably intended for *Schwetschkea longinervis* Cardot, which is now a synonym of *Orthoamblystegium spuriosubtile* (Broth. et Paris) Kanda et Nog. However, the status of this record remains doubtful.]
 - *striata* (Schwägr.) Schimp. [It is an illegitimate name because a type of earlier name was included. The basionym, *Pterogonium striatum* Schwägr. is a synonym of *Lescuraea mutabilis* (Brid.) Lindb. according to Wijk et al. (1967). However, the record published by Hong and Ando (1963) remains uncertain.]
- Lesquereuxia** Bruch et Schimp. ex Lindb.
 - *robusta* (Lindb.) Broth. = *Rigodiadelphus robustus* (Lindb.) Nog., fide Noguchi 1973
- Leucobryum** Hampe (Leucobryaceae)
 - **juniperoideum** (Brid.) Müll. Hal. (as *L. neilgherrense*, Hong and Ando 1962)
- Macromitrium** Brid. (Orthotrichaceae)
 - *— **japonicum** Dozy et Molk. (nos. 34664, 34693)
 - **prolongatum** Mitt. (Hong and Ando 1962) (as *M. prolongatum* var. *brevipes*, Cardot 1909)
- Macrosporiella** Dixon et Thér.
 - *dozyoides* (Broth. et Paris) Nog. = *Leucodon luteus*, fide Akiyama 1988
- Miyabea** Broth. (Thuidiaceae)
 - **fruticella** (Mitt.) Broth. (Hong and Ando 1963) (nos. 34648, 34688)
- Mniobryum** Limpr.
 - *albicans* (Wahlenb.) Limpr. = *Pohlia wahlenbergii*, fide Hong and Ando 1962
- Mnium** Hedw. (Mniaceae)
 - *arcuatum* Broth. = *Trachycystis ussuriensis*, fide Koponen 1973
 - *cuspidatum* Hedw. = *Plagiomnium cuspidatum*, fide Koponen 1968
 - *dubitatum* Cardot = *Plagiomnium acutum*, fide Koponen 1975
 - *— **heterophyllum** (Hook.) Schwägr. (no. 34699a)
 - *immarginatum* Broth. = *Trachycystis ussuriensis*, fide Koponen 1980
 - *japonicum* Lindb. = *Plagiomnium japonicum*, fide Koponen 1968
 - **laevinerve** Cardot (Cardot 1909, Hong and Ando 1962) (no. 34536a)
 - *longirostre* Brid. = *Plagiomnium rostratum*, fide Koponen 1980
 - *maximoviczii* Lindb. = *Plagiomnium maximoviczii*, fide Koponen 1968
 - *microphyllum* Dozy and Molk. = *Trachycystis microphylla*, fide Koponen 1973
 - *noguchii* Sakurai = *Plagiomnium acutum*, fide Koponen 1975
 - *punctatum* Hedw. = *Rhizomnium punctatum*, fide Koponen 1968
 - *striatulum* Mitt. = *Rhizomnium striatulum*, fide Koponen 1968
 - *trichomanes* Mitt. = *Plagiomnium acutum*, fide Koponen 1975
 - *vesicatum* Besch. = *Plagiomnium vesicatum*, fide Koponen 1968
- Neckera** Hedw. (Neckeraceae)
 - **fauriei** Cardot (Cardot 1911) (nos. 34601, 34711)
 - **flexiramea** Cardot (Cardot 1911, Kashimura 1941, Hong and Ando 1962) (no. 34711a)
 - **humilis** Mitt. (as *N. humilis* var. *complanatula*, Cardot 1911, Hong and Ando 1962) (nos. 34554, 34563a, 34608, 34723)
 - **yezoana** Besch. (Hong and Ando 1962) (as *N. uematsui*, Brotherus 1921)
- Okamuraea** Broth. (Leskeaceae)
 - **brachydietyon** (Cardot) Nog. (Noguchi 1953)
- Oligotrichum** DC (Polytrichaceae)
 - **aligerum** Mitt. (Hong and Ando 1963)
- Oncophorus** (Brid.) Brid. (Dicranaceae)
 - **crispifolius** var. **brevipes** (Cardot) Thér. (Hong and Ando 1962) (no. 34639)
- Palamocladium** Müll. Hal. (Brachytheciaceae)
 - **leskeoides** (Hook.) E. Britton (as *Pleuropus sciureus*, Hong and Ando 1963; as *Brachythecium brevirameum*, Cardot 1911)

Pelekium Mitt. (Thuidiaceae)

- ***versicolor*** (Hornsch. ex Müll. Hal.) Touw (as *Thuidium bipinnatum*, Hong and Ando 1963)

Philonotis Brid. (Bartramiaceae)

- ***corensis*** Cardot (Cardot 1909)
- ***fontana*** (Hedw.) Brid. (Hong and Ando 1962)
- *— ***turneriana*** (Schwägr.) Mitt. (no. 34515)
- ***yezoana*** Cardot and Besch. (Hong and Ando 1962)

Plagiomnium T. J. Kop. (Mniaceae)

- ***acutum*** (Lindb.) T. J. Kop. (as *Mnium dubitatum*, Cardot 1909; as *M. noguchii*, Sakurai 1935; as *M. trichomanes*, Horikawa 1935, Kashimura 1939) (nos. 34540, 34575, 34629, 34549a)
- ***cuspidatum*** (Hedw.) T. J. Kop. (as *Mnium cuspidatum*, Hong and Ando 1962) (nos. 34655, 34737)
- **— ***integrum*** (Bosch et Sande Lac.) T. J. Kop. (no. 34730)
- ***japonicum*** (Lindb.) T. J. Kop. (as *Mnium japonicum*, Hong and Ando 1962)
- ***maximoviczii*** (Lindb.) T. J. Kop. (as *Mnium maximoviczii*, Okamura 1915, Kashimura 1939, Hong and Ando 1962) (nos. 34519, 34709)
- ***rostratum*** (Schrader.) T. J. Kop. (as *Mnium longirostre*, Hong and Ando 1962)
- ***vesicatum*** (Besch.) T. J. Kop. (as *Mnium vesicatum*, Horikawa 1935) (nos. 34610, 34657)

Plagiothecium Bruch et Schimp. (Plagiotheciaceae)

- ***aomoriense*** Besch. = *Taxiphyllum aomoriense*, fide Iwatsuki 1963
- *— ***cavifolium*** (Brid.) Z. Iwats. (nos. 34562, 34504a, 34606b)
- ***euryphyllum*** (Cardot et Thér.) Z. Iwats. (as *P. splendens*, Hong and Ando 1963)
- ***nemorale*** (Mitt.) A. Jaeger (as *P. sylvaticum* var. *latifolium*, Cardot 1912) (nos. 34517, 34534, 34536, 34558, 34606, 34613, 34634, 34678, 34696, 34707, 34714, 34736)
- ***sylvaticum*** (Brid.) Schimp. (Hong and Ando 1963)

Platygyrium Schimp.

- ***perichaetiale*** Cardot = *Entodon brevisetus*,

fide Mizushima 1960

Pleuroziopsis Kindb. ex E. Britton (Climaciaceae)

- ***ruthenica*** (Weinm.) Kindb. ex E. Britton (Kashimura 1941)

Pleuropus Griff.

- ***sciureus*** (Mitt.) Toyama = *Palamocladium leskeoides*, fide Hofmann 1997

Pleurozium Mitt. (Hylocomiaceae)

- ***schreberi*** (Willd. ex Brid.) Mitt. (as *Caliergonella schreberi*, Hong and Ando 1963)

Pogonatum P. Beauv. (Polytrichaceae)

- ***contortum*** (Menzies ex Brid.) Lesq. (Horikawa 1935) (as *P. aspernum*, Okamura 1915, Horikawa 1935) (no. 34654)
- ***inflexum*** (Lindb.) Sande Lac. (Kashimura 1941, Hong and Ando 1963) (no. 34508)
- ***spinulosum*** Mitt. (Hong and Ando 1963) (no. 34571)
- ***urnigerum*** (Hedw.) P. Beauv. (Hong and Ando 1963)

Pohlia Hedw. (Bryaceae)

- ***camptotrachela*** (Renauld et Cardot) Broth. (Hong and Ando 1962)
- *— ***longicollis*** (Hedw.) Lindb. (no. 34663)
- ***wahlenbergii*** (F. Weber et Mohr) A. L. Andrews (as *Mniobryum albicans*, Horikawa 1935)

Polytrichastrum G. L. Smith (Polytrichaceae)

- ***alpinum*** (Hedw.) G. L. Smith (as *Polytrichum alpinum*, Kashimura 1941, Hong and Ando 1963) (no. 34631)
- ***formosum*** (Hedw.) G. L. Smith (as *Polytrichum formosum*, Hong and Ando 1963) (nos. 34570, 34604, 34683, 34722)

Polytrichum Hedw. (Polytrichaceae)

- ***alpinum*** Hedw. = *Polytrichastrum alpinum*, fide Smith 1971
- ***commune*** Hedw. (Kashimura 1941)
- ***formosum*** Hedw. = *Polytrichastrum formosum*, fide Smith 1971

Pseudoleskeopsis Broth. (Leskeaceae)

- ***mollicula*** Cardot (Cardot 1913a)

Pseudotaxiphyllum Z. Iwats. (Plagiotheciaceae)

- *— ***pohliaecarpum*** (Sull. et Lesq.) Z. Iwats. (no. 34514)

Pterobryon Hornsch. (Pterobryaceae)

- ***arbuscula*** Mitt. (Hong and Ando 1962)

Ptilium De Not. (Hypnaceae)

- **crista-castrensis** (Hedw.) De Not. (Horikawa 1935)

Ptychomitrium Fühnr (Ptychomitriaceae)

- *— **dentatum** (Mitt.) A. Jaeger (nos. 34509, 34510)
- **linearifolium** Reimers et Sakurai (Hong and Ando 1962) (no. 34510a)
- **sinense** (Mitt.) A. Jaeger (Kashimura 1939)
- **wilsonii** Sull. et Lesq. (Kashimura 1939)

***Pylaisia** Bruch et Schimp. (Hypnaceae)

- *— **cristata** Cardot (no. 34697)

***Pyrrhobryum** Mitt. (Rhizogoniaceae)

- *— **dozyanum** (Sande Lac.) Manuel (no. 34504)

Racomitrium Brid. (Grimmiaceae)

- *— **aquaticum** (Brid. ex Schrad.) Brid. (no. 34507)
- **canescens** (Hedw.) Brid. (Kashimura 1939) (as *R. barbuloides*, Cardot 1908)
- **canescens** var. **ericoides** (Brid.) Hampe (Hong and Ando 1962)
- **carinatmn** Cardot (Cardot 1908, Hong and Ando 1962) (nos. 34616, 34659, 34713)
- **fasciculare** var. **atroviride** Cardot (as *R. anomodontoides*, Cardot 1908, Hong and Ando 1962)
- **fasciculare** var. **brachyphyllum** Cardot (Cardot 1908)
- **fasciculare** (Hedw.) Brid. var. **fasciculare** (as *R. fasciculare* var. *orientale*, Cardot 1908)
- **laetum** Besch. et Cardot (Cardot 1908) (as *R. diminutum*, Hong and Ando 1962) (nos. 34611, 34681, 34695a)
- **lanuginosum** (Hedw.) Brid. (Hong and Ando 1962) (as *R. hypnoides*, Kashimura 1939)
- **nitidulum** Cardot (Cardot 1908)

RauIELla Reimers (Thuidiaceae)

- **fujisana** (Paris) Reimers (Hong and Ando 1963)

Rhabdoweisia Limpr. (Rhabdoweisiaceae)

- **crispata** (Dicks. ex With.) Lindb. (as *R. fugax* var. *subdenticulata*, Hong and Ando 1962)
- *fugax* var. *subdenticulata* (Boulay) Limpr. = *R. crispata*, fide Noguchi and Iwatsuki 1987

Rhizomnium (Mitt. ex Broth.) T. J. Kop.

(Mniaceae)

- **— **hattorii** T. J. Kop. (no. 34705)

- **punctatum** (Hedw.) T. J. Kop. (as *Mnium punctatum*, Horikawa 1935, Kashimura 1939)

- **striatulum** (Mitt.) T. J. Kop. (as *Mnium striatulum*, Hong and Ando 1962)

- *— **tuomikoskii** T. J. Kop. (no. 34644)

Rhodobryum (Schimp.) Limpr. (Bryaceae)

- **giganteum** (Schwägr.) Paris (Okamura 1915, Kashimura 1939) (as *Bryum giganteum*, Hong and Ando 1962) (nos. 34551, 34578, 34709a)

- **roseum** (Hedw.) Limpr. (Kashimura 1939) (as *Bryum roseum*, Hong and Ando 1962)

Rhynchostegium Bruch et Schimp. (Brachytheciaceae)

- **contractum** Cardot (Cardot 1912)

- **fauriei** Cardot (Cardot 1912)

- **— **inclinatun** (Mitt.) A. Jaeger (no. 34502a)

- *— **pallidifolium** (Mitt.) A. Jaeger (no. 34503)

- **riparioides** (Hedw.) Cardot (as *Eurhynchium riparioides*, Hong and Ando 1963; as *R. rusciforme* var. *coreanum*, *R. tenuinerve*, Cardot 1912) (nos. 34622, 34624, 34741, 34748)

Rhytidadelphus (Limpr.) Warnst. (Hylocomiaceae)

- *— **japonicus** (Reimers) T. J. Kop. (nos. 34505, 34560, 34600, 34617, 34632, 34551a, 34705a)

- **subpinnatus** (Lindb.) T. J. Kop. (as *R. calvescens*, Kashimura 1941, Hong and Ando 1963)

- **triquetrus** (Hedw.) Warnst. (Kashimura 1941, Hong and Ando 1963)

Rigodiadelphus Dixon (Leskeaceae)

- **robustus** (Lindb.) Nog. (as *Lesquereuxia robusta*, Hong and Ando 1963)

***Rosulabryum** J. R. Spence (Bryaceae)

- *— **capillare** (Hedw.) J. R. Spence (no. 34638)

Schistidium Bruch et Schimp. (Grimmiaceae)

- **apocarpum** (Hedw.) Bruch et Schimp. (as *Grimmia apocarpa*, Hong and Ando 1962)

- **gracile** (Röhl.) Limpr. (as *Grimmia apocarpa* var. *microtheca*, Cardot 1908)

Schwetschkeopsis Broth. (Fabroniaceae)

— **fabronia** (Schwägr.) Broth. (as *S. denticulata* subsp. *japonica*, Hong and Ando 1963) (no. 34521)

***Scopelophila** (Mitt.) Lindb. (Pottiaceae)

*— **cataractae** (Mitt.) Broth. (no. 34567)

Sphagnum L. (Sphagnaceae)

— **subsecundum** Nees (Suzuki 1958).

Stereodon Mitt.

— **ctenium** (Schimp. ex Besch.) Broth. = *Hypnum plumaeforme*, fide Hong and Ando 1963

Taxiphyllum M. Fleisch. (Hypnaceae)

— **aomoriense** (Besch.) Z. Iwats. (as *Plagiothecium aomoriense*, Hong and Ando 1963) (no. 34751)

*— **taxirameum** (Mitt.) M. Fleisch. (no. 34502)

Tetraphis Hedw. (Tetraphidaceae)

— **pellucida** Hedw. (as *Georgia pellucida*, Kashimura 1939)

Thamnium Schimp.

— **alopecurum** (Hedw.) Schimp. = *Thamnobryum alopecurum*, fide Gangulee 1976

Thamnobryum Nieuwl. (Thamnobryaceae)

— **alopecurum** (Hedw.) Nieuwl. ex Gangulee (as *Thamnium alopecurum*, Hong and Ando 1962) (no. 34725)

*— **plicatulum** (Sande Lac.) Z. Iwats. (nos. 34525, 34544, 34547, 34593)

*— **subseriatum** (Mitt. ex Sande Lac.) B.C. Tan (no. 34624a)

Theriotia Cardot (Diphysciaceae)

— **lorifolia** Cardot (Kashimura 1941)

Thuidium Bruch et Schimp. (Thuidiaceae)

— **bipinnatulum** Mitt. = *Pelekium versicolor*, fide Touw 2001

*— **cymbifolium** (Dozy et Molk.) Dozy and Molk. (nos. 34529, 34531)

*— **delicatulum** (Hedw.) Schimp. (nos. 34565, 34612, 34672)

— **kanedae** Sakurai (Hong and Ando 1963) (nos. 34525a, 34585, 34649, 34666, 34676, 34689, 34716)

— **pristocalyx** (Müll. Hal.) A. Jaeger (as *T. glaucinum*, Hong and Ando 1963) (no. 34564)

— **subglaucinum** Cardot (Cardot 1911)

****Trachycladiella** (M. Fleisch.) M. Menzel (Meteoriaceae)

— **aurea (Mitt.) M. Menzel (no. 34526a)

Trachycystis Lindb. (Mniaceae)

*— **flagellaris** (Sull. et Lesq.) Lindb. (nos. 34621, 34658)

— **microphylla** (Dozy et Molk.) Lindb. (as *Mnium microphyllum*, Horikawa 1935, Kashimura 1939, Hong and Ando 1962) (nos. 34548, 34549, 34564a, 34606c)

— **ussuriensis** (Maack et Regel) T. J. Kop. (as *Mnium immarginatum*, Hong and Ando 1962; as *M. arcuatum*, Kashimura 1939)

Trachypus Reinw. et Hornsch. (Trachypodaceae)

— **humilis** Lindb. var. **humilis** (as *T. humilis* var. *brevifolius*, Cardot 1911)

Trematodon Michx. (Dicranaceae)

— **longicollis** Michx. (as *T. drepanellus* var. *faccidisetus*, Hong and Ando 1962; as *T. faccidisetus*, Kashimura 1939)

***Trichostomum** Bruch (Pottiaceae)

— **deciduaefolium (K. Saito) R. H. Zander (nos. 34532, 34533, 34727)

Ulota D. Mohr (Orthotrichaceae)

— **crispa** (Hedw.) Brid. (Hong and Ando 1962) (no. 34618b)

Venturiella Müll. Hal. (Erpodiaceae)

— **sinensis** (Venturi) Müll. Hal. (Kashimura 1939)

Weisiopsis Broth. (Pottiaceae)

— **anomala** Broth. et Paris (as *Hyophila weisiaeformis*, Cardot 1907; as *W. cardotii*, Brotherus 1921)

— **coreensis** (Cardot) Broth. (as *Hyophila coreensis*, Cardot 1907)

Weissia Hedw. (Pottiaceae)

— **controversa** Hedw. (Hong and Ando 1962)

Discussion

The presently known moss flora of Jeju Island is still incomplete and more species can be discovered with further investigation. The mosses of the Jeju Island represent for nearly 85 % of the families (42 out of 48) and 68 % of the genera (109 out of 158) and 45 % of the species known to Korea (Choe 1980). There are fewer than eight species that are endemic species. Nearly all mosses of the Jeju Island are also known from Japan. This is parallel to that of the hepatic flora presented by Song

and Yamada (2006), which shows that all the hepatic species of the Island have been known from the lowland to subalpine areas of Japan. However, no endemic hepatic species was found from the Jeju Island. Of the 225 taxa of mosses from Jeju Island, about one third of the species account for Japan-Korean elements, and nearly 20 % for East Asian and 20% holarctic. These figures are similar to those reported by Hong and Ando (1963). It seems that the bryophyte flora of the Jeju Island is dominated by the East Asian temperate elements (Hattori et al. 1962, Song and Yamada 2006).

Acknowledgements

This research was supported by the NGS grant (No. 6467-99) to Si He and by the National Research Foundation of Korea (NRF) Grant (F01-2009-000-10022-0) to Jong-Suk Song. We thank the two anonymous reviewers for their valuable comments.

References

- Akiyama, H. 1988. Studies on *Leucodon* (Leucodontaceae, Musci) and related genera in East Asia. IV. Taxonomic revision of *Leucodon* in East Asia. J. Hattori Bot. Lab. **65**: 1-80.
- Brotherus, V. F. 1921. Musci novi japonici. Öfvers. Förh. Finska Vetensk.-Soc. **62**: 1-55.
- Brotherus, V. F. 1925. Musci. In A. Engler (ed.), Nat. Pflanzenfam. (ed. 2) **11**: i-iv, 1-542.
- Cardot, J. 1907. Mousses nouvelles du Japon et de Corée. Bull. Herb. Boissier, sér. 2, **7**: 709-717.
- Cardot, J. 1908. Mousses nouvelles du Japon et de Corée. Bull. Herb. Boissier, sér. 2, **8**: 331-336.
- Cardot, J. 1909. Mousses nouvelles du Japon et de Corée. Bull. Soc. Bot. Genève **1**: 120-132.
- Cardot, J. 1911. Mousses nouvelles du Japon et de Corée. Bull. Soc. Bot. Genève **3**: 275-294.
- Cardot, J. 1912. Mousses nouvelles du Japon et de Corée. Bull. Soc. Bot. Genève **4**: 378-387.
- Cardot, J. 1913a. Mousses nouvelles du Japon et de Corée. Bull. Soc. Bot. Genève **5**: 317-324.
- Cardot, J. 1913b. *Hylocomiopsis* Card., genre nouveau de la famille des Leskéacées. Rev. Bryol. Lichénol. **40**: 22-23.
- Choe, D.-M. 1980. Musci, Hepaticae. Ill. Fl. Fauna Korea 24. 790 pp. Ministry of Education, Seoul.
- Crum, H. 1971. Nomenclatural changes in the Musci. Bryologist **74**: 165-174.
- Deguchi, H. 1978 [1979]. A revision of the genera *Grimmia*, *Schistidium* and *Coscinodon* (Musci) of Japan. J. Sci. Hiroshima Univ., Ser. B, Div. 2, Bot. **16**: 121-256.
- Deguchi, H. 1986. Notes on some Asian species of *Grimmia*. Hikobia **9**: 327-329.
- Frahm, J.-P., Kunert, V., Franzen, I., Hoang, D.-T. and Willmeroth, M. 1998. Revision der Gattung *Dichodontium* (Musci, Dicranaceae). Trop. Bryol. **14**: 109-118.
- Frisvoll, A. A. 1988. A taxonomic revision of the *Racomitrium heterostichum* group (Bryophyta, Grimmiales) in N. and C. America, N. Africa, Europe and Asia. Gunneria **59**: 5-289.
- Gangulee, H. C. 1976. Mosses Eastern India and Adjacent Regions. 5. pp. (xxvii-xxxv) + xvii + 1135-1462. Published by author, Calcutta
- Gangulee, H. C. 1978. Mosses Eastern India and Adjacent Regions. 7. pp. (xxxix-xliv) + xvi [sic] + 1547-1752. Published by author, Calcutta
- Granzow de la Cerda, I. 1997. Revision and phylogeny of *Anomodon* and *Herpetineuron* (Anomodontaceae, Musci). Contr. Univ. Michigan Herb. **21**: 205-275.
- Hattori, S., Wong, H. and Inoue, H. 1962. On a small collection of Hepaticae made on Quelpart Island (Korea). J. Hattori Bot. Lab. **25**: 126-134.
- Hedenäs, L. 1990 [1992]. Taxonomic and nomenclatural notes on the genera *Calliergonella* and *Breidleria*. Lindbergia **16**: 161-168.
- Hofmann, H. 1997. A monograph of the genus *Palamocladium* (Brachytheciaceae, Musci). Lindbergia **22**: 3-20.
- Hong, W. -S. and Ando, H. 1962. The moss flora of Mt. Hanla, Quelpart Island (1). Hikobia **3**: 86-95.
- Hong, W. -S. and Ando, H. 1963. The moss flora of Mt. Hanla, Quelpart Island (2). Hikobia **3**: 191-201.

- Horikawa, Y. 1935. Symbolae florae bryophytae Orientali-Asiae IV. Bot. Mag. (Tokyo) **49**: 49–59.
- Horikawa, Y. 1955. Distributional Studies of Bryophytes in Japan and the Adjacent Regions. pp. 1–152. Hiroshima, Japan.
- Iwatsuki, Z. 1963. Bryological miscellanies XII–XIII. J. Hattori Bot. Lab. **26**: 63–74.
- Iwatsuki, Z. 1991. Catalog of the Mosses of Japan 182 pp. Hattori Botanical Laboratory, Nichinan.
- Iwatsuki, Z. 1941. General enumeration of mosses from Korea. II. J. Chosen Nat. Hist. Soc. **30**: 60–71.
- Karttunen, K. 1987. *Fissidens dubius*, the correct name for *F. cristatus* (Bryophyta). Ann. Bot. Fenn. **24**: 81–84.
- Kashimura, I. 1939. General enumeration of mosses from Korea. I. J. Chosen Nat. Hist. Soc. **26**: 7–19.
- Koponen, T. 1968. Generic revision of Mniaceae Mitt. (Bryophyta). Ann. Bot. Fenn. **5**: 117–151.
- Koponen, T. 1971. *Rhytidiadelphus japonicus* and *R. subpinnatus*. Hikobia **6**: 18–34.
- Koponen, T. 1973. A preliminary report on the Mniaceae in Japan I. Hikobia **6**: 185–202.
- Koponen, T. 1975. *Plagiomnium acutum*, comb. nova (Musci, Mniaceae). Ann. Bot. Fenn. **12**: 57–58.
- Koponen, T. 1980. A synopsis of Mniaceae (Bryophyta). IV. Taxa in Europe, Macaronesia, NW Africa and the Near East. Ann. Bot. Fenn. **17**: 125–162.
- Kruijer, H. 2002. Hypopterygiaceae of the world. Blumea, Suppl. 13. 388 pp.
- Lou, J. -S. and Koponen, T. 1986. A revision of *Atrichum* (Musci, Polytrichaceae) in China. Ann. Bot. Fenn. **23**: 33–47.
- Matsui, T. and Iwatsuki, Z. 1990. A taxonomic revision of the family Ditrichaceae (Musci) of Japan, Korea and Taiwan. J. Hattori Bot. Lab. **68**: 317–366.
- Missouri Botanical Garden. 2010. TROPICOS Database. <http://www.tropicos.org/>
- Mizushima, U. 1960. Japanese Entodontaceae. J. Hattori Bot. Lab. **22**: 91–158.
- Noguchi, A. 1948. Notes on Japanese Musci VIII. J. Jap. Bot. **22**: 82–88.
- Noguchi, A. 1951. On *Sakuraia* Broth., a genus of Musci. J. Jap. Bot. **25**: 49–52.
- Noguchi, A. 1953. Musci japonici III. The genus *Okamuraea*. J. Hattori Bot. Lab. **9**: 1–15.
- Noguchi, A. 1957. A revision of the genus *Haplohymenium* Doz. et Molk. (Musci). Kumamoto J. Sci., Sect. 2, Biol. **3**: 20–31 + 2 pl.
- Noguchi, A. 1964. A revision of the genus *Claopodium*. J. Hattori Bot. Lab. **27**: 20–46.
- Noguchi, A. 1973. Corrigenda to “Musci Japonici IX”. Misc. Bryol. Lichenol. **6**: 95.
- Noguchi, A. 1986. Notulae bryologicae, XII. J. Hattori Bot. Lab. **60**: 149–158.
- Noguchi, A. and Inoue, S. 1981. The identity of *Clastobryella kusatsuensis* (Besch.) Iwats. with *Brotherella yokohamae* (Broth.) Broth. Hikobia Suppl. **1**: 39–44.
- Noguchi, A. and Iwatsuki, Z. 1987. Illustrated Moss Flora of Japan 1. pp. 1–242. Hattori Botanical Laboratory, Nichinan.
- Noguchi, A. and Iwatsuki, Z. 1988. Illustrated Moss Flora of Japan 2. pp. 243–491. Hattori Botanical Laboratory, Nichinan.
- Noguchi, A. and Iwatsuki, Z. 1989. Illustrated Moss Flora of Japan 3. pp. 492–742. Hattori Botanical Laboratory, Nichinan.
- Noguchi, A., Iwatsuki, Z. and Yamaguchi, T. 1991. Illustrated Moss Flora of Japan 4. pp. 743–1012, Hattori Botanical Laboratory, Nichinan.
- Noguchi, A., Iwatsuki, Z. and Yamaguchi, T. 1994. Illustrated Moss Flora of Japan 5. pp. 1013–1253. Hattori Botanical Laboratory, Nichinan.
- Nyholm, E. 1971. Studies in the genus *Atrichum* P. Beauv. A short survey of the genus and species. Lindbergia **1**: 1–33.
- Ochi, H. 1985. An annotated list of mosses of the subfamily Bryoideae in South, Southeast and East Asia. J. Fac. Educ. Tottori Univ., Nat. Sci. **34**: 41–96.
- Okamura, S. 1915. Contributiones novae ad floram bryophyton Japonicam. J. Coll. Agric. Imp. Univ. Tokyo **36** (7). 51 pp.
- Saito, K. 1975. A monograph of Japanese Pottiaceae (Musci). J. Hattori Bot. Lab. **39**: 373–537.
- Sakurai, K. 1935. Beobachtungen über japanische Moosflora. X. Bot. Mag. (Tokyo) **49**:

- 843-846.
- Smith, G. L. 1971. Conspectus of the genera of Polytrichaceae. Mem. New York Bot. Gard. **21** (3): 1-83.
- Song, J.-S. and Yamada, K. 2006. Hepatic flora from Jeju (Cheju) Island, Korea. J. Hattori Bot. Lab. **100**: 443-450.
- Staples, G. W., Imada, C. T., Hoe, W.-J. and Smith, C. W. 2004. A revised checklist of Hawaiian mosses. Trop. Bryol. **25**: 35-70.
- Suzuki, H. 1958. Taxonomical studies in the *Subsecunda* group of the genus *Sphagnum* in Japan, with special reference to variation and geographical distribution. J. Jap. Bot. **16**: 227-268.
- Takaki, N. 1955. Researches on the Brachytheciaceae of Japan and its adjacent areas. II. J. Hattori Bot. Lab. **15**: 1-69.
- Taoda, H. 1980. Studies on the Fabroniaceae of Japan II. Hikobia **8**: 298-321.
- Touw, A. 2001. A taxonomic revision of the Thuidiaceae (Musci) of tropical Asia, the western Pacific, and Hawaii. J. Hattori Bot. Lab. **91**: 1-136.
- Ueki, H. 1933. On the forest zone of Korea. Acta Phytotax. Geobot. **2**: 73-85.
- Watanabe, R. 1972 [1973]. A revision of the family Thuidiaceae in Japan and adjacent areas. J. Hattori Bot. Lab. **36**: 171-320.
- Watanabe, R. 1991. Notes on the Thuidiaceae in Asia. J. Hattori Bot. Lab. **69**: 37-47.
- Wijk, R. van der, Margadant, W. D. and Florschütz, P. A. 1959. Index Muscorum. 1 (A-C). Regnum Veg. 17. xxviii + 548 pp.
- Wijk, R. van der, Margadant, W. D. and Florschütz, P. A. 1962. Index Muscorum. 2 (D-Hypno). Regnum Veg. 26. 535 pp.
- Wijk, R. van der, Margadant, W. D. and Florschütz, P. A. 1967. Index Muscorum. 4 (P-S). Regnum Veg. 48. 604 pp.
- Yamaguchi, T. 1993. A revision of the genus *Leucobryum* (Musci) in Asia. J. Hattori Bot. Lab. **73**: 1-123.
- Zanten, B. O. van. 1959. Trachypodaceae: a critical revision. Blumea **9**: 477-575.
- 何 思¹・宋 鍾碩²: 韓国済州島の蘚類植物相: 追加記録と更新された総目録
- 本研究を通じて韓国済州島からの蘚類の総目録は109属, 42科におよぶ225の種ならびに種下分類群であることが明らかになった。これは文献によってこれまで済州島から記録されたすべての蘚類を含むものである。新たに53種が済州島の蘚類植物相に追加され, その中12種は韓国から最初に記録されるものである。
- (¹アメリカ合衆国ミズーリ州セントルイス市ミズーリ植物園; ²〒760-749 韓国慶北安東市松川洞388 安東大学校自然科学大学生命科学科)
- (Received December 7, 2010; accepted February 15, 2011)